

LIKELY OCCURRING BUTTERFLIES
and
THEIR LIFE CYCLES
at
SAGAMORE HILL NATIONAL HISTORIC SITE,
OYSTER BAY, NEW YORK

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INTRODUCTION

The purpose of this report is to provide information that will enable managers of Sagamore Hill National Historic Site to apply *Bacillus thuringiensis* (BT) for Gypsy Moth (*Lymantria dispar*) control with minimal impact on the other Lepidoptera (in this case, butterflies) of the property. BT affects the larval instars of Lepidoptera, so timing is crucial for those species that will or will not be affected. The first two instars are affected by BT, a time when butterflies are just becoming active. Presently (September 1995), application is planned for spring 1996, shortly after the eggs hatch. Sagamore Hill contains deciduous forest -- second-growth oak--tulip-tree forest, which is uncommon in New York (Reschke 1990), and more disturbed, variably open manicured areas. Salt marsh and maritime beach fronting Cold Spring Harbor are of little consequence here. BT may affect some foliage-feeding insects other than Lepidoptera (Eric Quinter, American Museum of Natural History, personal communication). Gyp-Check, which only affects Gypsy Moths, is recommended over BT for use here.

Since there was no time to carry out an adequate field survey when requested for data, this hypothetical list was put together based on field knowledge of butterflies of the local vicinity and the region as a whole. A number of visits to the property were also made by the author over the years. From this and the literature, it is believed to be rather unlikely that there are any species of true butterflies or skippers of great rarity or local distribution that would warrant great concern. Only 21 species are thought to regularly occur on the property, though occasional other visitors, some regionally uncommon, are to be expected. There also is enough habitat outside the Historic Site, especially forest, that if even all individuals of a species were eliminated, others would likely recolonize in a short time.

Perhaps the best way to increase the insect and, in particular, butterfly richness and diversity would likely come from mowing the lawn ("field") near Old Orchard Museum no more than once a year in early April. Alternating one half of the field with the other half the following year would preclude loss of many species that would otherwise be temporarily out of habitat. This would allow many more plant species to colonize and cover to remain all winter, benefitting invertebrates and vertebrates alike. Native mammals and birds would certainly take advantage, while the aggressive, non-native European Starling (*Sturnus vulgaris*) would lose habitat. This is only appropriate for the former home of Theodore Roosevelt. Additional species of butterfly to expect would be the Black Swallowtail (*Papilio polyxenes*) (possible with members of the carrot family, Umbelliferae, present), American Copper (*Lycaena phlaeas*), Coral Hairstreak (*Satyrium titus*) [especially with the advent of Butterflyweed (*Asclepias tuberosa*)], Gray Hairstreak (*Stymon melinus*), Eastern Tailed Blue (*Everes comyntus*), Pearl Crescent (*Phyciodes tharos*), Common Wood Nymph (*Cercyonis pegala*), Dreamy Duskywing (*Erynnis icelus*), Least Skipper (*Ancyloxypha numitor*), European Skipper (*Thymelicus lineola*) (non-native), Tawny-edged Skipper (*Polites themostocles*), Crossline Skipper (*P. origenes*), and Northern Broken Dash (*Wallengrenia egeremet*).

Specific data was gathered from Cech (1993), Glassberg (1993) and Opler (1984). Most of it represents the regional (New York City -- Long Island area) situation, since flight times and broods

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decrease with higher latitudes and elevations. Habitat preferences are indicated on the following list, including forest or open areas (lawn, scattered trees, gardens, etc.). Most of the species can be found along forest edges.

LOCAL BUTTERFLIES and BASIC LIFE CYCLES

True Butterflies Superfamily Papilionoidea

Swallowtails Family Papilionidae

Eastern Tiger Swallowtail *Papilio glaucus*: Adults fly late April - mid-Sept. Overwinter as chrysalis. Bivoltine. Both habitats.

Spicebush Swallowtail *P. troilus*: Adults fly late April - mid-Sept. Overwinter as chrysalis. Bivoltine. There is a staggered adult emergence. Prefers forest.

Whites and Sulphurs Family Pieridae

Cabbage White *Pieris rapae*: Non-native.

Common Sulphur *Colias philodice*: Adults late April - late Oct. Overwinter as chrysalis. 3 - 4 broods. Open habitats.

Orange Sulphur *Colias eurytheme*: Adults mid-April - late Oct. Overwinter as chrysalis. 4 - 5 broods. Open habitats.

Gossamer-winged Butterflies (Coppers, Hairstreaks and Blues) Family Lycaenidae

Banded Hairstreak *Satyrus calanus*: Adults mid-June - mid-July. Overwinters as egg. Larva and chrysalis in spring. Univoltine. Forested habitats preferred.

Spring Azure *Celastrina ladon*: Adults April - mid-May; mid-June - mid-Sept. Overwinters as chrysalis. 3 - 4 broods if considered one species. Forest habitat and nearby.

Brush-footed Butterflies Family Nymphalidae

Question Mark *Polygonia interrogationis*: Adults May - Oct. Some adults overwinter, most migrate south. Bivoltine. Open areas more than forest.

Mourning Cloak *Nymphalis antiopa*: Adults Mar. - May; mid-June - Oct. Overwinters as adult, which emerges June - July. Eggs and larvae in spring. Univoltine. Forest habitat preferred over open.

American Painted Lady *Vanessa virginiensis*: Adults mid-April - Oct. Overwinters as adult. 2 - 3 broods. Open habitats.

Painted Lady *V. cardui*: Adults late April - Oct. Migratory, repopulates area each spring. 2 - 3 broods. Open habitats.

Red Admiral *P. atalanta*: Adults mid-April - Oct. Adults or chrysalis may overwinter or migrate north in spring. Bivoltine. Open areas preferred.

Common Buckeye *Junonia coenia*: Adults June - October. Overwinters as adult in south, then migrates back north. 2 - 3 broods. Open habitats.

Red-spotted Purple *Limenitis arthemis astyanax*: Adults mid-May - mid-June; July; Sept. Bivoltine, possible partial third brood. Open areas preferred.

Little Wood Satyr *Megisto cymela*: Adults late May - July (two overlapping broods may represent two species) Univoltine. Forest and shaded edges.

Monarch *Danais plexippus*: Adults late May - Oct. Overwinter as adults well to the south. At least two broods. Open areas.

Skippers Superfamily Hesperioidea

Skippers Family Hesperiidae

Silver-spotted Skipper *Epargyreus clarus*: Adults May - mid-Sept. Overwinter as mature larva. Bivoltine. Open habitat.

Juvenal's Duskywing *Erynnis juvenalis*: Adults late April - early June. Overwinters as mature larva.

- Univoltine. Open habitats, including forest openings.
- Wild Indigo Duskywing *E. baptisiae*: Adults mid-May - early June; July - early August; early - mid-Sept. Overwinters as larva. Bivoltine or partial third brood. Open areas with non-native larval food plant Crown Vetch (*Coronilla varia*) generally necessary in this area, though perhaps not present.
- Peck's Skipper *Polites peckius*: Adults late May - June; late July - Sept. Probably overwinters as larva. Bivoltine or partial third brood. Its habitats are open.
- Hobomok Skipper *Poanes hobomok*: Adults mid-May - early July. Probably overwinters as larva. Univoltine. Forest.
- Zabulon Skipper *P. zabulon*: Adults mid-May - early July; Aug. - mid-Sept. Probably overwinters as larva. Bivoltine. Both habitats.

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